Appl. No.: 09/932,148
Amdt. dated 12/30/2004
Reply to Office action of July 2, 2004

Amendments to the Claims:

Kindly amend Claims 1-5, 7, 10, 12, 14-16, 18-21, 23-25, 27, 33, 36 and 39.
Kindly cancel Claims 6, 8, 9, 11, 13, 17, 22, 28, 29, 32, 34, 35, 37, 38 and 40.

1. (Currently Amended) A method for capturing ~~optical~~ and decoding barcode image data ~~from an image signal executed by a central processor that is additionally responsible for executing the operating system and application program of the~~ in an image capture device, the method comprising the steps of:

generating an image capture signal;

~~assigning, at the central processor, in response to an image capture signal, a memory address for the image data to be assembled;~~

receiving, in response to the image capture signal ~~at an image capture device~~, pixel data of an image ~~optical image data from an imager~~;

assembling the pixel data into a plurality of image data blocks ~~at the image data assembler under control of the central processor~~;

storing the assembled image data blocks in memory ~~in accordance with the assigned memory address~~; and

decoding a barcode within the assembled image data blocks ~~and executing the application program~~ at ~~the~~ a central processor, ~~whereby the optical image is captured, decoded and processed by the central processor~~ wherein the central processor executes the operating system and one or more application programs.

2. (Currently Amended) The method of Claim 1, further comprising ~~wherein~~ the step of assigning, at the central processor, in response to generation of the image capture signal, a memory address for ~~the~~ an image ~~data to be assembled further comprises invoking the image capture device under control of the central processor to begin the image data assembly process~~.

3. (Currently Amended) The method of Claim 1, wherein the step of assembling the pixel data into a plurality of image data blocks further comprises the step of invoking a transfer controller under control of the central processor.

4. (Currently Amended) The method of Claim 1, wherein the step of assembling the pixel data into a plurality of image data blocks further comprises the step of invoking an image builder module to begin an image data assembly process.

5. (Currently Amended) The method of Claim 3, wherein the step of assembling the pixel data into a plurality of image data blocks is further defined as being initiated upon receipt of a signal from the transfer controller.

6. (Cancelled)

7. (Currently Amended) The method of Claim 1, wherein the step of assembling the pixel data into a plurality of image data blocks further comprises the step of invoking a programmable logic device remote from the central processor.

8. (Cancelled)

9. (Cancelled)

10. (Currently Amended) The method of Claim 3, wherein the step of assembling the pixel data into a plurality of image data blocks further comprises the step of invoking the transfer controller to coordinate transfer of the assembled image data blocks to memory.

11. (Cancelled)

12. (Currently Amended) The method of Claim 1, further comprising the step of generating an end of frame signal after all the image data blocks ~~components~~ are stored.

13. (Cancelled)

14. (Currently Amended) The method of Claim 1, further comprising the step of executing the application program after the ~~image data~~ barcode has been decoded.

15. (Currently Amended) The method of Claim 3, wherein the step of assigning ~~to the assembled image data~~, at the central processor, in response to generation of the image capture signal, a memory address for an image further comprises the step of communicating the memory address via the transfer controller.

16. (Currently Amended) The method of Claim 1, wherein the step of storing the assembled image data in system memory further comprises gaining control of the data bus in communication with the image data assembler and the memory module and transferring assembled image data to system memory.

17. (Cancelled)

18. (Currently Amended) The method of Claim 3, wherein the step of invoking a transfer controller further comprises invoking a programmable logic device.

19. (Currently Amended) The method of Claim 4, wherein invoking an image builder module further comprises invoking a programmable logic device.

20. (Currently Amended) The method of Claim 1, wherein the step of assembling the pixel data into a plurality of image data blocks further comprises the step of assembling the image data blocks under control of the central processor and an image builder module.

21. (Currently Amended) The method of Claim 1, wherein the step of storing the assembled image data blocks in memory further comprises storing the assembled image data blocks in memory under control of the central processor or a transfer controller.

22. (Cancelled)

23. (Currently Amended) An imaging device for capturing and decoding barcode ~~optical~~ image data ~~from an image signal~~, the device comprising:

an imager for generating image pixel data ~~segments~~;

an image data assembler in communication with the imager ~~under control of the central processor~~ that receives image ~~data segments~~ pixel data from the imager and assembles the pixel data into image data blocks ~~components~~;

a memory module in communication with the image data assembler that receives assembled image data blocks ~~components~~ from the image data assembler and stores the assembled image data blocks ~~components according to an assigned memory address~~; and

a central processor in communication with the memory module that executes a barcode decode routine on the stored image data blocks ~~the image capture process and the~~ and executes a device operating system and one or more application ~~program~~ programs ~~of the image capture device, whereby the optical image is captured, decoded and processed under control of the central processor~~.

24. (Currently Amended) The imaging device of Claim 23, wherein the image data assembler comprises an image builder module that receives image pixel data ~~segments~~.

25. (Currently Amended) The imaging device of Claim 23, wherein the image data assembler comprises a transfer controller that receives a signal ~~signals~~ from the central processor.

26. (Original) The imaging device of Claim 25, wherein the transfer controller invokes an image builder module in response to a signal from the central processor.

27. (Currently Amended) The imaging device of Claim 24, wherein the transfer controller invokes the image builder module in response to a signal from the central processor designating a memory address for the image data blocks that ~~is~~ are to be assembled.

28. (Cancelled)

29. (Cancelled)

30. (Original) The imaging device of Claim 23, wherein the image data assembler comprises a programmable logic device.

31. (Original) The imaging device of Claim 25, wherein the transfer controller comprises a programmable logic device.

32. (Cancelled)

33. (Currently Amended) The imaging device of Claim 23, wherein the central processor, the image data assembler and the memory module are ~~located~~ disposed on ~~the same~~ a single printed circuit board.

34. (Cancelled)

35. (Cancelled)

36. (Currently Amended) The imaging device of Claim 23, wherein ~~said~~ the image data assembler generates an end of frame signal after the image data ~~components~~ blocks are assembled.

37. (Cancelled)

38. (Cancelled)

39. (Currently Amended) The imaging device of Claim 23, wherein ~~said~~ the image builder module comprises a programmable logic device.

40. (Cancelled)